

PT 55113

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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF :
PETER HUNTEMANN, ET AL. : EXAMINER: KASHNIKOW, ERIK
SERIAL NO: 10/581,449 :
FILED: JUNE 1, 2006 : GROUP ART UNIT: 1794
FOR: SYNTACTIC POLYURETHANE :
CONTAINING OIL, PREFERABLY
CASTOR OIL

DECLARATION UNDER 37 C.F.R. §1.132

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313

SIR:

Now comes Dr. Jeffrey Dodge who deposes and declares that:

1. I am a graduate of PENN STATE University and received my PhD degree in
the year 1992.

2. I have been employed by the BASF Co for the past 2 years, as a researcher
in the field of POLYURETHANES

3. The following experiments were conducted by me or under my direct
supervision and control.

Procedure

As detailed in Table 1, to 76.25 g of a resin masterbatch (see below) was added
quantities of castor oil to comprise blends of 2.5 wt. % and 10.0 wt. % by weight castor

oil. To the resultant blends, was then added enough S35 glass microspheres to comprise mixtures of 22.7 % by weight of the total composition. These blends were then mixed and reacted with Elastoflex 24050T (a diphenylmethane diisocyanate). Thin plaques (1/8" thick) were case in an aluminum book mold heated to 70°C. After an initial cure (ca. 1 hr), the plaques were postcured at 80°C for 18 hrs. After cooling and conditioning for 1 day at room temperature, five type S2 tensile bars were die cut from each plaque. The samples were further conditioned in a dessicator to remove residual moisture (3 days). The samples were then weighed, immersed in ASTM-grade artificial sea water at 80°C and then re-weighed after 1, 2, 3, 4 and 6 weeks. The results, in terms of % mass increase, are listed in Table 2 below:

Table 1

Resin ingredients	Example ¹	Comparative Example 1 ²
Masterbatch	76.25 g	76.25 g
Castor Oil	8.48 g	1.96 g
S35 Glass	24.9 g	23 g

¹ contains 10 wt. % of castor oil based on the total weight of polyol components

² contains 2.5 wt. % of castor oil based on the total weight of polyol components

Masterbatch

The masterbatch formulation was as follows: polyol 1¹ (41.1 %); polyol 2² (40.98%); dipropylene glycol (15.75%); Additive package³ (2.17%)


1. Polyol 1: A poly(propyleneoxide) of OH # 56
2. Polyol 2: A poly(propyleneoxide) of OH # 58
3. Additive package; Catalyst, amino-silane, moisture scavenger and defoamer.

Table 2

Water content after weeks (wt.%)	example	Comp example 1
0	0	0
1	4.15	4.43
2	4.44	4.79
3	4.54	4.96
4	4.75	4.89
6	4.71	5.1

The data demonstrates an increase in water absorption of for the Comp Example 1 containing only 2.5 wt. % of castor oil, indicative of increased hydrolysis of the polyurethane, as compared with to the example containing 10 wt. % of castor oil.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is believed to be true and correct. 28 USC 1746(1)



DEC. 2, 2009
Date